II. CLAIM AMENDMENTS

1. (Currently Amended) A method in a transmitter for interleaving information bits from a data block into transmission bursts, each of the information bits being assigned with an index, the interleaving comprising

determining if modification of the values of the indexes is required by determining if $\frac{K}{2} \bmod D = 0$, wherein K is the size of the data block given in bits, and D is the interleaving depth given as the number of bursts,

computing positions of the information bits in the transmission bursts such that the values of the indexes of at least a portion of the information bits are modified by means of a shift term $s = \mathrm{int}\left[\dfrac{k}{K/2}\right]$, wherein k is the value of the index of the information bit.

2. (Cancelled)

3. (Currently Amended) The A method as claimed in claim 12, wherein each information bit to be included in one of the transmission bursts is provided with an index number, and the sum of the index number of each information bit and the shift term s forms the modified value of the index of said information bit for use in the computations.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7.   (Currently Amended) The ~~A~~ method as claimed in claim 1, comprising ~~wherein the~~ transmitting the information bits ~~or is used for transmitting~~ in a GSM/EDGE radio access network.

8.   (Currently Amended) A method in a receiver for de-interleaving information bits from received transmission bursts, each of the information bits being assigned with an index, the de-interleaving comprising:

determining if the value of any of the indexes has been modified before transmission of the transmission bursts by determining if

$$\frac{K}{2} \bmod D = 0, \text{ wherein K is the size of the data block given}$$

in bits, and D is the interleaving depth given as the number of bursts; and

if $\frac{K}{2} \bmod D = 0$, ~~based on the determination,~~ de-interleaving the information bits

~~either~~ based on modified values of the indexes, said modification of the indexes being based on ~~or originally assigned values of the indexes.~~ a shift

term $s = \mathrm{int}\left[\dfrac{k}{K/2}\right]$, wherein k is the value of the index of the information bit.

9.   (Currently Amended) A transmitter comprising ~~:~~
an interleaver configured to ~~for~~ interleave ~~ing~~ information bits from a data block into transmission bursts, each of the information bits being assigned with an index, to determine if modification of the values of the indexes is required by determining if

$$\frac{K}{2} \bmod D = 0, \text{ wherein K is the size of the data block given in bits, and D is the}$$

interleaving depth given as the number of bursts, and to compute positions of the information bits in the transmission bursts such that the values of the indexes of at least a portion of the information bits are modified by means of a shift term $s = \text{int}\left\lfloor \dfrac{k}{K/2} \right\rfloor$, wherein k is the value of the index of the information bit.

10.   (Currently Amended) A receiver comprising:

a de-interleaver configured to for de-interleave ing information bits from received transmission bursts, each of the information bits being assigned with an index, ; and to

determine if the value of any of the indexes has been modified before transmission of the transmission bursts by determining if $\dfrac{K}{2}\text{mod}\,D = 0$, wherein K is the size of the data block given in bits, and D is the interleaving depth given as the number of bursts; and in response to determination that $\dfrac{K}{2}\text{mod}\,D = 0$ to de-interleave the information bits based on modified values of the indexes, said modification of the indexes being based on a shift term $s = \text{int}\left\lfloor \dfrac{k}{K/2} \right\rfloor$, wherein k is the value of the index of the information bit.

means for determining if any of the indexes has been modified before transmission of the transmission bursts, the de-interleaver being arranged to de-interleave the information bits either based on modified values of the indexes or originally assigned values of the indexes based on the determination.

4

11.   (New) The method as claimed in claim 1, comprising transmitting the information bits from one of a base station and a mobile station of a mobile communication system.

12.   (New) The method as claimed in claim 1, comprising transmitting the information bits based on at least one of time division multiple access (TDMA), code division multiple access (CDMA), frequency division multiple access (FDMA), and space division multiple access (SDMA).

13.   (New) The method as claimed in claim 8, comprising receiving the information bits in one of a base station and a mobile station of a mobile communication system.

14.   (New) The method as claimed in claim 8, wherein each information bit included in a transmission burst is provided with an index number, and the modified value of the index of said information bit equals with the sum of the index number of each information bit and the shift term s.

15.   (New) The method as claimed in claim 8, comprising receiving the information bits based on at least one of time division multiple access (TDMA), code division multiple access (CDMA), frequency division multiple access (FDMA), and space division multiple access (SDMA).

16.   (New) The method as claimed in claim 8, comprising receiving the information bits in a GSM/EDGE radio access network.

17.   (New) The transmitter as claimed in claim 9, configured to be provided in one of a base station and a mobile station of a mobile communication system.

18.   (New) The transmitter as claimed in claim 9, wherein the modified value of the index of each information bit equals with the sum of the index of said each information bit and the shift term s.

19.   (New) The receiver as claimed in claim 10, configured to be provided in one of a base station and a mobile station of a mobile communication system.

20.   (New) The transmitter as claimed in claim 10, wherein the modified value of the index of each information bit equals with the sum of the index of said each information bit and the shift term s.

21.   (New) An apparatus configured to interleave information bits from a data block into transmission bursts, each of the information bits being assigned with an index, to determine if modification of the values of the indexes is required by determining if $\frac{K}{2} \bmod D = 0$, wherein K is the size of the data block given in bits, and D is the interleaving depth given as the number of bursts, and to compute positions of the information bits in the transmission bursts such that the values of the indexes of at least a portion of the information bits are modified by means of a shift term $s = \mathrm{int}\left[\dfrac{k}{K/2}\right]$, wherein k is the value of the index of the information bit.

22.   (New) The apparatus as claimed in claim 21, configured to be provided in one of a base station and a mobile station of a mobile communication system.

23.   (New) The apparatus as claimed in claim 21, wherein the modified value of the index of each information bit equals with the sum of the index of said each information bit and the shift term s.

24.   (New) The apparatus as claimed in claim 21, configured for use in association with a transmitter for transmitting information bits based on at least one of time division multiple access (TDMA), code division multiple access (CDMA), frequency division multiple access (FDMA), and space division multiple access (SDMA).

25.   (New) The apparatus as claimed in claim 21, configured for use in association with a transmitter for a GSM/EDGE radio access network.

26.   (New) An apparatus configured to de-interleave information bits from transmission bursts, each of the information bits being assigned with an index, to determine if the value of any of the indexes has been modified before transmission of the transmission bursts by determining if $\frac{K}{2} \mod D = 0$, wherein K is the size of the data block given in bits, and D is the interleaving depth given as the number of bursts, and in response to determination that $\frac{K}{2} \mod D = 0$ to de-interleave information bits based on modified values of the indexes, said modification of the indexes being based on a shift term $s = \text{int}\left[\dfrac{k}{K/2}\right]$, wherein k is the value of the index of the information bit.

27.   (New) The apparatus as claimed in claim 26, configured to be provided in one of a base station and a mobile station of a mobile communication system.

28.   (New) The apparatus as claimed in claim 26, wherein the modified value of the index of each information bit equals with the sum of the index of said each information bit and the shift term s.

29.   (New) The apparatus as claimed in claim 29, configured for use in association with a receiver configured to receive information bits based on at least one of time division multiple access (TDMA), code division multiple access (CDMA), frequency division multiple access (FDMA), and space division multiple access (SDMA).

30.   (New) The apparatus as claimed in claim 29, configured for use in association with a receiver for a GSM/EDGE radio access network.